

Abstract

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An optical frequency modulated transmitter includes a plurality of separately phased-controlled slave lasers, the outputs of which are combined to form a single output beam of the transmitter. A master optical oscillator outputs an optical signal for injection locking the plurality of slave lasers, the optical signal being frequency modulated directly in the master optical
10 oscillator or externally thereof. Additionally, a method of frequency modulating an optical beam is disclosed using a plurality of slave lasers. Each of the slave lasers has an output, the outputs of which are combined to form the optical beam. The plurality of slave lasers is injection locked to an optical output of a master oscillator. The optical output of the master oscillator is frequency modulated before the optical output is applied to the plurality of lasers. Each slave laser of the
15 plurality is phased controlled relative to other slave lasers of the plurality.